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TO: THE COMMISSIONER OF PATENTS AND TRADEMARKS
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Sir:

With reference to the filing in the United States Patent and Trademark Office of an application
for patent in the name(s) of: Brian J. Roberts and David B. Petch entitled: *GAMING DEVICE AND
METHOD*

X This is an application of a small entity under 37 CFR 1.9(f) and the amounts shown in
parentheses below have been employed in calculating the fee.

X Small Entity Verified Statement X is enclosed was filed in the parent application and is
still proper.

The following are enclosed:

X Specification

X 34 Claim(s) (including 7 independent claims

 This application contains a multiple dependent claim.

X Oath or Declaration and Power of Attorney

X 4 Sheet(s) of Drawings

X Our check 002425 for \$ 690.00, calculated as follows:

Basic Fee - \$380.00 \$380.00

Total No. of Claims in excess of 20 at \$9 each = 14 126.00

Number of Independent Claims in excess of 3 at \$39 each =4 156.00

Total Filing Fee \$662.00

Assignment Recording Fee \$40.00 (Our Check No. 002426)

X Order Form for Recording Assignment

 Certified copy of each of the following application(s) to substantiate the claim(s) for priority made in the Declaration:

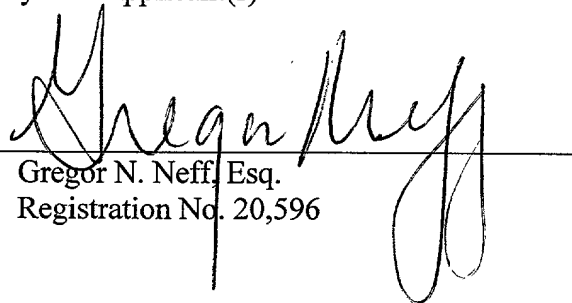
Application No. filed in

Please charge any additional fees required for the filing of this application or credit any overpayment to Deposit Account No. 50-0297. A duplicate copy of this letter is enclosed.

Respectfully Submitted,

WHITMAN BREED ABBOTT & MORGAN LLP
Attorneys for Applicant(s)

By:


Gregor N. Neff, Esq.
Registration No. 20,596

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

I, the undersigned, hereby declare that I am

— the owner of the small business concern identified below:

X an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN ON POINT TECHNOLOGY SYSTEMS

ADDRESS OF CONCERN 1370 San Marcos Blvd-San Marcos, CA 92126

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled **GAMING DEVICE AND METHOD** by inventor(s) **Brian J. Roberts and David B. Petch**, described in

X the specification filed herewith.

— application serial no. __, filed __.

— patent no. __, issued __.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 CFR 1.27).

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I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING

Sam W. Stearman

TITLE OF PERSON CFO, Secretary and Treasurer
(if other than owner)

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SIGNATURE  DATE 8.27.99

PATENT
3345-2180
(007120-0036)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
APPLICATION FOR LETTERS PATENT

Applicants : Brian J. Roberts and David B. Petch
Title : GAMING DEVICE AND METHOD
Claims : 34
Sheets of Drawings : 4

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This application is a continuation in part of U.S. Patent Application No. Ser. No. 09/238,682, filed January 26, 1999, of Ser. No. 09/128,406, filed August 3, 1998 and of Ser. No. 09/060,423, filed April 14, 1998.

This invention relates to gaming devices and methods, and particularly to gaming ticket or coupon self-service terminals and methods.

Self-service terminal for selling lottery tickets such as instant-winner or so called "scratch-off" tickets are well known. In addition, different machines have been provided for vending pull-tab lottery tickets.

Other self-service terminals for playing so called "on-line" games, (e.g. Lotto, Keno, Numbers) also have been provided. A typical terminal has a touch-screen for operation, and a reader which reads the number selected by hand by the customer from a form provided for the purpose. Alternatively, the customer instructs the terminal to select a random number. In either case, a printer prints a receipt or ticket which bears the selected numbers and a unique transaction serial number in coded form. The reader can be used later, after the drawing, to read the number on the receipt and indicate whether it is a winner.

Quite often, winnings from any one of such games are of moderate size, and might consist of one or more additional free tickets. In such cases, the player must bother the clerk of the store in which the machine is located to cash one or more low-value tickets, return to the machine to buy more tickets and so forth. It is time wasting for the clerk to handle these transactions, and annoying to the customer.

One of the continuing problems with all gaming ticket or coupon self-service terminals is keeping customer's interest. Accordingly, it is desired to produce such machine in which a variety of games can be played.

Accordingly, it is an object of the present invention to provide a gaming device and method which alleviate the foregoing problems.

In particular, it is an object of the invention to provide a gaming device and method in which several types of gaming tickets can be dispensed from a single terminal.

It also is an object of the invention to facilitate the cashing of winning tickets in such games, and particularly to cash the winning tickets and use them in the same machine for credit toward purchases of other tickets.

Moreover, it is an object of the present invention to provide mechanisms for dispensing tickets in a variety of different enclosures with a certain degree of commonality of parts so as to minimize manufacturing costs.

It is another object of the invention to provide such a device and method in which the tickets are issued with a minimum of opportunities for theft.

It also is an object of the invention to avoid dropping the tickets to be issued into a collecting receptacle, and thus avoiding blockage of the path to such a receptacle.

In accordance with the present invention, the foregoing objects are met by the provision of a self-service ticket vending and issuing machine which accommodates the selling of both instant-winner and pull-tab tickets, and/or lotto or other lottery tickets in a secure, compact, efficient cabinet structure.

In particular, the invention provides for the selling of lotto tickets or tickets in similar games, scratch-off lottery tickets, and pull-tab lottery tickets, all from the same self-service machine.

Also, in accordance with the present invention, a winning ticket from one game can be re-inserted into the machine, where its winning amount is read by a reader, validated and the winning amount is provided as a credit to the player. This credit can be used to buy tickets for another totally different game, or for the same game, as desired. The combination of games in a single machine is synergistic.

When a customer has a moderate sized winning from one game, his conversion of those winnings into other tickets is greatly facilitated so as to maximize ticket sales. Also, the store clerk's time is used less, thus freeing him or her to perform other tasks. The customer is better served because converting winners of moderate size into additional tickets is made easier and faster.

Another feature of the invention is the provision of a drive/separator module which can be used in a plurality of different locations and dispensing units with only minor variations. The module includes a housing, a rotary separator member, input and output drive rollers to move tickets into an inlet, past the separator, and out of the housing through an outlet.

A drive system preferably is mounted in the housing for driving the drive rollers, and a drive device also is mounted there to drive the separator member.

Multiple channels side-by-side with one another are operated with a single drive system and single separator mechanism spanning all channels.

A further highly advantageous feature of the invention is the theft-resistant ticket ejector mechanism.

After a ticket or a series of tickets has been separated from the rest of a strip, the ticket is first moved away from the separator, while remaining in the housing, and then is ejected out of the housing by moving it in the opposite direction. Then the trailing edge of the ticket exits the machine first.

This arrangement ensures that no part of the ticket or ticket string extends outside the housing until severance is complete. This prevents thieves from pulling on the ticket end to pull a strip of tickets out of the machine.

In another advantageous feature of the invention, tickets in a strip are moved past a window upwardly, rather than downwardly as in the past. This simplifies

the mechanism needed for handling the tickets, and simplifies the loading of tickets in the machine.

IN THE DRAWINGS

Fig. 1 is perspective view of a gaming device constructed in accordance with present invention;

Fig. 2 is a cross-sectional, partially schematic view of a dispensing mechanism used in the machine shown in Fig. 1;

Fig. 3 is a side elevation cross sectional view of another dispensing mechanism used in the machine shown in Fig. 1;

Fig. 4 is a cross-sectional, partially schematic side elevation view of the drive and separator unit of the device of Fig. 1

Fig. 5 is schematic circuit diagram illustrating the operating system of the present invention;

Fig. 6 is a perspective, partially broken - away and partially schematic view of the structure shown in Fig. 4;

Fig. 7 is a perspective view of the helical separator member of the structure shown in Figs. 4 and 6;

Fig. 8 is a front elevation view, partially schematic, taken along line 8-8 of Fig. 3;

Fig. 9 is a schematic side elevation view of an alternative embodiment of the dispenser shown in Fig. 3; and

Fig. 10 is a cross-sectional view of another dispensing mechanism of the invention.

GENERAL DESCRIPTION

Fig. 1 shows a self-service terminal 10 constructed in accordance with the present invention. The machine 10 has a sturdy metal housing 12, with side walls 14, front walls 16 and 17, a top wall 18 and bottom and rear walls (not shown).

A display unit 20 is supported above the top 18 of the housing to give messages of interest or advertising with lighted displays. A second display 21 is provided and to display the credit available to the customer using the machine and other operating instructions.

The front door is constructed of two separate door panels 19 and 22. Panel 19 is hinged at one side to the housing using internal hinges, and panel 22 is separately hinged. It overlies part of the door 19 so that panel 22 is opened first to allow the door 19 to be opened. The door panel 19 then can be opened and swung to one side to give access to the dispensers and other components inside for easy refilling and servicing.

Mounted in the panel 22 is a bill acceptor 24 which typically accepts one dollar, five dollar, ten dollar and twenty dollar bills. The credit resulting from each deposit is added to the amount of credit on the display 21.

The gaming machine 10 has three different sections 26, 28 and 30.

The first section 26 is the on-line game module, which includes a known lotto play slip reader 34 with an input slot 38 for reading hand-made selections on a lotto play slip, and for reading receipts. Also included is a receipt printer 36 with an outlet slot 40 which issues a receipt or ticket which bears the number selected by the player and a unique transaction serial number in coded form.

Also included in the on-line game module is a touch-screen 42. By touching the screen 42 the user can select a "quick" automatic random selection of numbers made by the machine, in which case the reader is not needed.

Thus, on-line game tickets can be purchased from the machine 10, and the tickets can be re-inserted into the reader 34 after the drawing to determine whether they are winners.

The second section 28 of the machine contains eight different ticket dispensers each of which moves a series of scratch-off instant-winner tickets past a window 48 for dispensing. The tickets are fastened together in strings or sequences delineated from one another by perforation lines.

Above each dispenser unit is a small display 32 which displays the cost of tickets shown in the window 48 below it.

Also provided just above each dispenser is a push-button 46 to actuate the dispensing of tickets. One push dispenses one separate ticket, and a rapid series of pushes dispenses a string of tickets attached together.

The third and final group of dispensers 30 includes six dispensers for dispensing pull tab tickets 50.

All of the tickets which are dispensed from sections 28 and 30 are dispensed through narrow slots 44 located above the display 32.

Preferably, a slot 45 is provided in the panel 22 for receiving pull-tab and scratch-off lottery tickets and on-line tickets, if desired. A code reader (not shown in Fig. 1) reads the code on the tickets to determine whether the ticket is a winner, whether it has been previously cashed (by reference to a central computer or storage system where such information is stored), and, if so the winning amount. Such winning tickets are pulled into the machine branded as "paid" and captured in a safe box for later accounting and audit needs as required and the player is given credit for the winning amount so that he or she can use the credit to buy more tickets or play lotto, or one of the other games that can be housed in the machine 10.

The winning tickets that can be thus redeemed includes the winning on-line game tickets (receipts) which are inserted into the reader 34 to be read.

It should be noted that, although the windows 48 are shown in Figs. 2, 3, and 4 as being vertical, they actually are tilted slightly to the left of vertical by about 10° because the front door of the self-service terminal 10 is tilted by that amount. Thus, when the term "vertical" is used in this description, it includes directions approximately 10° or more away from vertical.

STRIP TICKET DISPENSER

Figure 2 is a cross-sectional side-elevation schematic view of one of the ticket dispensers shown in Figure 1. The tickets are arranged in long fan-folded strips in which the tickets are delineated from one another by perforation lines. Typically, such tickets are scratched-off lottery tickets, sometimes referred to as "instant winners".

The dispensing mechanism takes advantage of dispensing structures disclosed in pending U.S. Patent Application Ser. No. 09/238,682, filed January 26, 1999 and the prior patent applications from which the latter application claims priority and which are identified at the beginning of this patent specification. The disclosures of those applications hereby are incorporated herein by reference.

In particular, a fan-fold stack 56 of tickets formed of a single ticket strip 68 rests on a shelf 54 in the self-service machine housing. The strip extends under an idler roller 70 and upwardly towards a drive and separator unit 58

ANTI-THEFT EJECTING DEVICE

The ticket strip 68 is pulled into the unit 58 where either a single ticket or a sequence of tickets is separated from the remaining tickets in the strip, and is pushed upwardly out of the unit 58 into a theft-resistant ejecting device 60 (Fig. 4).

The ejecting device includes a curved guide 66 and a pair of driven rollers 62. The leading edge of the ticket or ticket strip hits the deflector 66 and enters the nip of the rollers 62 which pulls the ticket or strip of tickets to the left until the trailing edge clears the upper edge of the guide 66, and then reverses direction and pushes the ticket or strip through the narrow outlet opening 44, with the trailing edge first.

A photo cell detector 35 is located at the upper edge of the guide 66 and detects the trailing edge of the ticket or ticket string.

The ticket is bent by the guide 66. As the trailing edge moves past the upper edge of the guide 66, the tickets snaps into a horizontal orientation and is driven in reverse towards the outlet 44, and exits the machine trailing edge first.

The outlet 44 is very narrow, say 0.050 inch. To ensure that the ticket is guided through the slot, a guide structure 29 is provided with converging surfaces which guides the edge of the ticket towards the outlet. Also, although the wall 52 (actually, a bezel) is shown schematically as being only sheet metal, it actually is a relatively thick polycarbonate plastic material with converging side walls forming a relatively wide inlet opening of over ¼" width at the inlet to the slot 44.

The rejecting device 60 thus prevent any part of the tickets from exiting from the housing until the separator has separated the tickets from the string. Thus, there is no ticket end extending from the housing upon which a person can pull to withdraw tickets without paying for them.

This arrangement is highly advantageous as compared with some prior ticket dispensing machines in which every ticket is separated from the strip and is dropped into a receptacle for the customer to remove. One advantage is that the ticket cannot become stuck in the passageway to the receptacle. Another is that the ticket is delivered in the proper orientation for easy reading by the customer.

This mechanism is also advantageous relative to such prior art in that it permits the tickets to be issued in strips, as many customers prefer.

DRIVE/SEPARATOR MODULE

The drive and separating module 58 is shown and described in greater detail in the foregoing copending U.S. patent applications, and particularly in Ser. No. 09/238,682, filed January 26, 1999. However, a summary of the disclosure will be presented here for the sake of completeness in this specification.

Referring now to Figures 4 and 6, and first to Fig. 4, the unit 58 includes a housing 57 with an inlet opening 59 and an outlet opening 61 vertically above the inlet opening.

The ticket strip 68 passes between a set of input drive rollers 65, through a separator unit 63 consisting of two extrusions 67 and 67' forming a cylindrical chamber through which the ticket strip passes, and in which a rotatable helical separator member 73 rotates, through a set of output drive rollers 69, and out of the housing 57 through an outlet opening 61.

A drive system is indicated schematically by dashed-line circle 71 in Fig. 4, and is shown in greater detail in Fig. 6.

Figure 6 is a perspective schematic view of a separator and drive mechanism which has only two channels instead of four, for the sake of simplification of the drawings.

The set of output rollers 69 includes a separate set of idler rollers 81 for each channel, and a drive roller 83 engaged with the idler rollers. Each of the four sets of idler rollers is mounted on a common shaft 107, and each of the drive rollers 83 is secured to a separate common shaft 105.

Similarly, the set of input rollers 65 includes a set of idlers 87 mounted rotatably on a common shaft, and multiple separate drive rollers 85 mounted

rotatably on a separate common shaft 109. A small spur gear 113 is secured to each roller 85.

A small spur gear 95 is secured at one end to the shaft 105 and meshes with a large spur gear 111 secured to a drive shaft 79 to which each drive roller 83 is secured.

Similarly, each of the independent idler rollers 81 rotates freely on a common shaft. Therefore, all of the drive output rollers 83 will rotate when the shaft 79 is rotated.

A drive motor 77, preferably a stepping motor, is provided and is coupled to the shaft 79. A combination of a large spur gear 97 and an electrically-operated clutch 99 is provided for each channel. Each clutch 99 is separately operable to drivably couple the associated spur gear 97 with the drive shaft 79.

When one of the clutches is so operated, the spur gear 97 drives the small spur gear 113 to rotate one of the rollers 85 for one channel to move the ticket strip 68 (shown in dashed outline) through the device.

The leading edge of each ticket or sequence of tickets is detected by photocell detectors 31 and 33. When it is determined, by counting the number of steps taken by the motor 77, that the ticket strip is in a proper position for the separation of one or more tickets from the strip, the drive rollers stop, and a separator drive motor 75 connected through a shaft 89 to the separator member 73 rotates the helical separator member through one revolution and causes one or more tickets to be separated from the strip along a perforated line.

Figure 7 is a perspective view showing the separator member 73 with two helical blades 55, one for each of the two channels of the separator mechanism shown in Fig. 6. As it is more fully described in the foregoing copending U.S. Patent Applications, each helical blade 55 extends around the shaft 73 and is secured to it so that its edge travels through an angle of 180 degrees. The rotation

of the shaft causes the tickets to be torn along a perforated line quickly, neatly and reliably.

When the separation operation has been completed, the drive motor again drives the drive rollers 83 which causes the ticket or tickets to be driven upwardly to the ejection device 60, which then ejects the tickets from the machine.

It should be understood that, although the drive/separator module 58 shown in Fig. 4 has a separate housing 57, when used in the self-service terminal shown in Fig. 1, the housing 57 is not needed and preferably is not used.

It is notable that four channels, six channels and even more can be driven with a single drive motor and a single separator motor, thus significantly reducing the complexity, size and cost as compared with prior separator systems.

PULL-TAB TICKET DISPENSING

Figures 3 and 8 show one embodiment of the pull-tab ticket dispenser of the invention. This dispenser differs from the showing of Fig. 1 primarily in that tickets 138 and 140 are delivered into a chute or receptacle 136 located below the window 48 instead of through an outlet above the window 48.

The window 48 and the front of the self-service terminal, as well as a stack 72 of pull-tab tickets are inclined, at a substantial angle (e.g., 10° to 15°) away from vertical.

The tickets in the stack 72 are stacked on edge with their longest dimension extending vertically (See Fig. 8) on a support surface 80. A pusher 78 with an inclined front face 74 is urged towards the left in Fig. 3 by means of a compression spring 47 urging the pusher from the rear and pressing against a solid portion 76 of the dispensing machine. The pusher 78 has a vertical extension 146 with a hole. A horizontal guide rod 144 extends above the stack 72 and through the hole in the

extension 146. The guide rod 144 guides the pusher 78 in its travels towards and away from the window 48.

The ticket stack 72 is urged into contact with an idler roller 12 near the upper edge of the stack, and a drive roller 124 located near the bottom of the stack.

A second drive roller 126 bearing against a spring-biased idler roller 12 is provided to eject the ticket into the chute 136.

The rollers 124 and 126 are mounted in a mounting block 122 which has a surface 125 against which the tickets bear during dispensing. A known "ticket knife" structure 130 is provided to set the dimensions of the gap between the left edge of the ticket knife and the surface 125 by loosening the screw 131 and moving the knife body to the left or right, and re-tightening the screw.

A drive motor and clutch system 49 like that shown in Fig. 4 is provided to drive the ticket-dispensing rollers 124 and 126 in each of the six pull-tab channels in the machine. Each of the rollers 124 is driven only when one of the six clutches is energized, and the output rollers 126 are driven whenever the drive motor rotates.

Operation of the dispenser of Figs. 3 and 8 is as follows:

The tickets at the front of the stack slide downwardly under the force of gravity to rest on the downwardly sloping left portion on the "knife" 130.

When one of the clutches for one of the channels is energized, the drive roller 124 grips the front ticket 50 and sends it past the knife 130 into the nip of the rolls 126, 128 which feed the ticket downwardly.

The ticket 138 bends slightly when it contacts the chute 136, and then straightens out, as shown at 140 when it rests, in the chute, ready to be grasped by the customer.

The pusher plate 78 pushes the stack to the left to bring the next ticket into dispensing position.

The pusher 78 rides on a wheel 82 which rolls on the surface of the support 80. The wheel also protrudes forwardly of the front surface 74. Thus, the force of the pushing spring 47 is concentrated in the vicinity of the wheel 82 and this maximizes the pressure on the roller 124 to give it a good grip on the lead ticket 50. This helps to ensure that the tickets will be separated from one another if they are stuck together.

The spring 47 preferably is replaced by one or a pair of "continuous" springs and pulleys which are better adapted for relatively lengthy travel paths, but is shown as a compression spring for the sake of simplicity in the drawings.

Fig. 10 is a schematic representation of an alternative embodiment of the pull-tab dispensing mechanism. It is very similar to the one shown in Figs. 3 and 8, except that the positions of the rollers 120 and 126, 128 are reversed and the ticket knife 130 is at the top of the stack 72 and the tickets are ejected upwardly instead of downwardly. The tickets are driven along a gently curved path 150 through a pair of feed rollers 152 and into the nip of a pair of reversing rollers 154.

Rollers 154 drive the ticket first to the right, until the trailing edge of the ticket is detected by a photocell (not shown in Fig. 10), at which point the rollers reverse direction and push the ticket to the left along a guide 156 and through the outlet 44, which is above the window 48, as shown in Fig. 1.

Another embodiment of the pull-tab ticket dispenser is illustrated diagrammatically in Figure 8. A pair of thin elastomeric belts and pulleys are located near the vertical edges of the ticket 50 at 133. These belts are driven to push the ticket 50 either upwardly or downwardly instead of the rollers 124, 126, etc. shown in Figs. 3, 8 and 10.

Another alternative embodiment is shown in Figure 9 in which the lead ticket 50 is pushed upwardly through a slot 116 in a short horizontal portion of a

recess 114 in the front panel of the self-service terminal. The ticket is pushed upwardly and out of the machine along the path 118 directly by the pusher plate 53, thus reducing the size and complexity of the dispensing mechanism and preventing the bending of the tickets.

This mechanism can also drive the tickets in a downward direction to dispense the next ticket and drop it into a receptacle.

With all of the foregoing mechanisms, the customer is allowed to see the face of the pull tab ticket and watch it move upwardly or downwardly as it is being dispensed from the machine. This adds interests and reassurance to the customer in knowing what he or she is about to receive.

LOTTO GAMING EQUIPMENT

Figure 5 shows the on-line game module 26 schematically. This module is basically the same as that currently manufactured and sold by G-Tech, Inc. and used in a self-service terminal. The equipment 26 includes a card reading device 96 for reading a lotto card filled out by hand and inserted into the slot 38. If the correct fee has been paid, the device 96 reads the markings representing the selected numbers from the card. The card is ejected after reading so that the player can use it in a subsequent drawing.

A receipt (ticket) is printed by means of a receipt printer 102 using paper from a roll 104, and the receipt is issued through the outlet opening 40 in the front panel 52 of the housing of the machine.

As it is well-known, this equipment has the feature whereby the printed receipt bears the selected numbers and a unique transaction number in a code readable by the reader 96. At a later time, after the drawing, the receipt can be inserted into the slot 38 to be read by the reader 96 to determine whether the ticket

is a winner, and the display 21 or display of the touch-screen 42, if used, will give the customer the good or bad news, i.e. win or lose.

As noted above, and as it is shown in Figure 1, the customer can touch a selected area on the screen and select the "quick-pick" option whereby the machine itself makes a random selection of a number for the customer or by use of the touch-screen the customer may select his/her own numbers. In this case, a hand-filled out card is not necessary and a receipt is issued by the receipt printer promptly after the number(s) has been selected.

All of these elements of the unit 26 are integrated into the module housing as shown in Fig. 1.

The display 21 displays the amount of credit available corresponding to the amount of cash input to the machine by the customer. As the tickets (including on-line game receipts) are issued, the balance decreases automatically until exhausted.

CONTROL SYSTEM

Figure 5 is a schematic circuit diagram of the control system of the machine shown in the other figures of the drawings.

The control system includes a microprocessor 84 suitably programmed to perform the following functions.

Each horizontal row of ticket dispensers in sections 28 and 30 (Fig. 1) has a control unit 86 consisting of drive motors 75 and 77, or drive motors or solenoids for the pull-tab dispensers and ejector rollers 62, etc. clutches 99; edge detectors 31, 33, 35, etc.; and push-buttons 46. The microprocessor 84 accepts signals from the push buttons 46, payment acceptor 24, and the edge detectors 92 to operate the clutches 99 and the drive motors, to move the tickets, to operate the separator mechanisms, and eject the tickets as described above. Separate circuits 86

essentially the same as the one shown are included, each for a separate row of dispensers.

A keypad 112 is provided inside in the machine for use by service representative to change the price display 32, if necessary, and otherwise initialize the microprocessor 84 when reloading the machine with tickets, in a well-known manner.

The message advertising displayed on the overhead display unit 20 is either programmed remotely from a central computer 108 through a modem 106, or is predetermined by other means such as the key pad 112. The credit available to the customer is displayed on the display unit 21, and is increased or decreased by the micro-processor.

As is it well known in the art, a modem 106 conveys information regarding the identification number of the tickets sold, and the winning amount of the ticket, if it is a winner, and other information to a central computer 108 so that the computer 108 is continuously informed as to which tickets have been sold and the winning amounts.

A connection, indicated at 110, can be made to the world wide web to display information from the lottery system website during times between transactions.

WINNER CREDIT FEATURE

In accordance with one feature of the present invention, winners from any of the several games sold in the machine 10 can be exchanged for credit towards the purchase of more tickets from the same machine.

In general, the way this is accomplished is that a bar-code, OCR or other type of reader 39 (Fig. 5) is positioned in the machine behind the slot 45 (see Fig. 1). The winning ticket is inserted into the slot 45 on a support 43, and the unique

transaction number (ticket number) is read by the reader 39. The micro-processor 84 checks with the central computer 108 to see if the ticket is a winner. If so, the winning amount is posted as a credit towards purchase of plays in the same game or other games, and the ticket is drawn in by a drive roller pair 41 and deposited in a catch-bin 37 where it is retained. Also, a printer 101 (Fig. 5) can be provided to mark the ticket "PAID".

If the ticket is not a winner, it is returned to the customer by reverse rotation of the rollers 41.

Referring to Figure 5, the reader 96 of the lotto system 26 already is adapted to read the number from the receipt/ticket inserted into the slot 38. The microprocessor 84 simply is enabled to credit the amount of a winning ticket to the credits available to the player when the player presses the "credit" area on the touch screen 42 (see Figure 1). The amount of the winnings is credited and displayed on the display 21, and can be used for purchasing more on-line game or instant winner tickets, as desired.

If the ticket is detected to be a winner and the credit is given to the player, then the ticket is pulled into the machine by drive roller pair 98 and deposited in the bin 100 so that the player will not attempt to cash the same ticket again. Also, a printer 103 can be used to mark the ticket "PAID". If it is not a winner, it is returned by reversing the direction of rollers 98.

Instead of the player having to bother a clerk to give the player another free ticket, or two dollars or five dollars cash for a winning ticket, and then return to the machine to buy more tickets, if he or she so desires, the player can conveniently convert the winnings into more tickets. The result is higher ticket sales, lower labor usage, and better convenience for the player and the store owner.

If the amount of winnings for the ticket exceeds a certain maximum level, say twenty dollars, the player still will be required to cash the ticket through the clerk. Of course, this upper limit can be adjusted as necessary, as long as the upper limit of the amount of credit that can be displayed on the display 21 is sufficiently high.

It should be understood that the invention is not limited to a machine that plays only three games; rather, the invention applies to machines offering at least two, and more than three games as well.

Also, a player may cash out winning credits displayed on display 21 by pressing a "Payout" button either on the touch-screen or else where. Upon receipt of the Payout signal the system will print, via printer 102, a Payout ticket which the customer will present to the retailer for payment in the same manner as the payment for a winning ticket. The same can be done using the printer 101 for the tickets it prints.

Additional games similar to lotto can be played in the machine instead of or in addition to lotto. For example, keno, "pick three", "pick four" and other such games also can be played using the on-line game equipment 26.

Another variation of the invention is one in which non-completed lottery tickets each having a blank region adapted for receiving printed information necessary to complete the ticket can be dispensed from the machine rather than completed tickets. Such tickets are those, for example, described in U.S. Patent No. 5,772,510.

In this case, the non-completed ticket is inserted into the terminal or dispensed from a fan-fold pack or rolls, and the central computer 108 supplies information to the terminal to complete the ticket, and a printer prints the

information on the ticket blank. The completed ticket then can be played and cashed in the manner described above, or by a clerk, if it is a winner.

The above description of the invention is intended to be illustrative and not limiting. Various changes or modifications in the embodiments described may occur to those skilled in the art. These can be made without departing from the spirit or scope of the invention.

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CLAIMS

1. A multi-ticket-type game ticket self-service terminal, said terminal comprising, in combination, a housing, a plurality of ticket dispensers in said housing, each adapted to dispense one of a plurality of different types of game tickets from said housing, said types including tickets stored in strips in which individual tickets are delineated from one another by lines of weakness, and lottery tickets bearing numbers for use in a drawing to determine a winner, a currency acceptor device to accept currency and produce a corresponding credit, detector means for detecting the amount of winnings a winning ticket is worth, and credit means for making a credit in the amount of such worth available for use in buying from said terminal tickets of a type different from said winning ticket.

2. A self-service terminal as in Claim 1 in which said ticket types include instant-winner pull-tab tickets stored in stacks of separate tickets.

3. A self-service terminal as in Claim 1 in which said detector means includes means for reading a code from each ticket inserted into said reading means, and means for comparing said code with stored information indicating which tickets are winners and the winning amounts thereof.

4. A self-service terminal as in Claim 2, said housing having a plurality of windows with one of said dispensers for pull-tab tickets adjacent to each window, said dispensers each being adapted to move a ticket past one of said windows with the ticket visible from outside of said housing, each of said dispensers including a holding support structure for holding said tickets in a stack with the tickets in said stack on edge, said stack having a front end, and a rear end, with a front ticket at said front end adjacent to and visible through one of said windows, and dispensing drive means for moving the ticket at said front end in a

path parallel to said window to dispense it from said machine while said ticket is visible through said window.

5. A self-service terminal as in Claim 1 in which said types include incomplete tickets with a printer to complete said tickets.

6. A self-service terminal as in Claim 1 including a dispensing mechanism for dispensing tickets from each of said strips, and in which said housing has one window for each dispensing mechanism, each mechanism including drive means for moving said strip of tickets, said drive means being located above said window and being adapted to pull said strip upwardly past said window with said strip visible from outside of said housing, and guide means for guiding at least one ticket from said strip through an outlet opening out of said housing.

7. A self-service terminal as in Claim 1 including a dispensing mechanism, for dispensing tickets from each of said strips, each said dispensing mechanism including a separator mechanism for separating tickets from one another before being guided out of said housing, said separator mechanism including at least one rotary helical blade and at least one detector for detecting the position of said tickets and a drive device for rotating said blade to separate said tickets.

8. A self-service terminal as in Claim 1 in which tickets from each of said strips are dispensed by a dispensing mechanism, each dispensing mechanism including a separator/drive module, said module comprising a housing, inlet and outlet openings in said housing, a rotary separator member rotatably mounted in said housing and positioned to span one of said strips and extend in a direction transverse to said strip, a first ticket drive device in said housing between said inlet opening and said separator member to move said strip to a separation location, and

a second ticket drive device for moving at least one ticket away from said separator member and through said outlet opening.

9. A self-service terminal as in Claim 1, each dispensing mechanism including a separator for separating at least one ticket from said strip, said guide means comprising feed means for first feeding said ticket away from said separator while remaining in said housing, and then outwardly through said outlet opening, trailing edge first.

10. A multi-ticket-type game ticket self-service terminal, said ticket terminal comprising, in combination, a housing, a plurality of ticket dispensers in said housing, each adapted to dispense one of a plurality of different types of game tickets from said housing, said types including tickets stored in strips in which individual tickets are delineated from one another by lines of weakness, and instant-winner pull-tab tickets stored in groups of separate tickets, said housing having a plurality of windows with one of said dispensers adjacent thereto, said dispensers each being adapted to move a ticket past one of said windows with the ticket visible from outside of said housing.

11. A self-service terminal as in Claim 10 in which each of said dispensers for said separate tickets includes a holding support structure for holding said tickets in a stack with tickets in said stack on edge, said stack having a front end, and a rear end, with a front ticket at said front end adjacent to and visible through one of said windows, and dispensing drive means for moving the ticket at said front end in a path parallel to said window to dispense it from said machine while said ticket is visible through said window.

12. A method of vending gaming tickets of a variety of different types, said types including at least two types selected from the group consisting of, tickets stored in strips in which individual tickets are delineated from one another by lines

of weakness; instant-winner pull-tab tickets stored in groups; lottery tickets bearing numbers for use in a drawing to determine a winner, the steps of:

- (a) accepting money deposited in said machine and providing corresponding credits,
- (b) dispensing from said machine a number of tickets of a type selected by a buyer corresponding to the amount of said credits,
- (c) detecting the amount of winnings attributable to one of said tickets of a first type, and
- (d) developing corresponding credits towards purchases of tickets of one of said other types.

13. A method as in Claim 12 including reading a code from a ticket presented for credit and determining said amount of winnings by reference to a computer data base.

14. A method as in Claim 12 in which said lottery tickets for use in a later drawing include tickets for a game selected from the group consisting of lotto, keno and games in which groups of numbers are selected, such as "pick three" or "pick four", as well as non-completed tickets for later completion.

15. A ticket dispenser having a housing with at least one window, as well as a storage area for storing an elongated strip of tickets delineated from one another by lines of weakness, drive means for moving said strip of tickets, said drive means being located above said window and being adapted to pull said strip upwardly past said window with said strip visible from outside of said housing, and guide means for guiding at least one ticket from said strip through an outlet opening and out of said housing.

16. A dispenser as in Claim 15 including a separator mechanism for separating tickets from one another before being guided out of said housing, said

separator mechanism including at least one rotary helical blade and at least one detector for detecting the position of said tickets and rotating said blade to separate said tickets.

17. A dispenser as in Claim 16 in which said housing has a plurality of said windows and storage areas arranged in a linear array, said separator mechanism including a single shaft with helical portions spaced along its length, one for each of a plurality of said strips from which tickets are to be dispensed, said drive means being adapted to move each of said strips independently from the other.

18. A dispenser as in Claim 16 in which said drive means includes two sets of drive rollers with adjacent rollers mounted to rotate independently of one another on the same shaft, a common drive motor and a clutch for selectively driving each of said sets of drive rollers through a single drive shaft.

19. A dispenser as in Claim 15 including a separator for separating at least one ticket from said strip, said guide means comprising feed means for first feeding said ticket away from said separator while remaining in said housing, and then outwardly through said outlet opening.

20. A dispenser as in Claim 19 including a detector for detecting the trailing edge of said ticket and producing a corresponding signal, and feed means responsive to said signal for reversing said feed means to thrust said ticket through said outlet opening, trailing edge first.

21. A dispenser as in Claim 20 in which said detector is positioned and conditioned to detect the trailing edge of a connected string of said tickets and produce a corresponding signal, said feed means being responsive to said signal to feed said ticket string out through said outlet opening, trailing edge first.

22. A ticket dispenser for dispensing tickets from an elongated strip in which said tickets are delineated from one another by lines of weakness, said dispenser having a housing with a dispensing outlet opening, a storage area in said housing for storing said strip, a separator mechanism, a feed mechanism for feeding a ticket separated from said strip out of said housing through said outlet opening, said feed mechanism including means for first feeding said ticket away from said separator while remaining in said housing, and then outwardly through said outlet opening.

23. A dispenser as in Claim 22 including a detector for detecting the trailing edge of said ticket and producing a corresponding signal, and feed means responsive to said signal for reversing said feed mechanism to thrust said ticket through said outlet opening, trailing edge first.

24. A dispenser as in Claim 23 in which said detector is positioned and conditioned to detect the trailing edge of a connected string of said tickets and a corresponding signal, said feed means being responsive to said signal to feed said ticket string out through said outlet opening, trailing edge first.

25. A dispenser as in Claim 22 including a guide for guiding said ticket to turn through a substantial angle and enter the nip of a pair of drive rollers, means for driving said drive rollers until the trailing edge of said ticket reaches a predetermined location, and then reversing said drive rollers to drive said ticket through said outlet opening trailing edge first.

26. A dispenser as in Claim 22 in which said separator has a rotary member with a helical projection and means to position one of said lines of weakness of said strip adjacent said projection and rotate said rotary member to separate said tickets from one another.

27. A separator/drive module for driving and separating tickets from a strip of tickets in which individual tickets are delineated from one another by lines of weakness, said module comprising a housing, inlet and outlet openings in said housing, a rotary separator member rotatably mounted in said housing and positioned to span said strip and extend in a direction transverse to said strip, a first ticket drive device in said housing between said inlet opening and said separator member to move said strip to a separation location, and a second ticket drive device for moving at least one ticket away from said separator member and through said outlet opening.

28. A module as in Claim 27 including a drive motor in said housing with a drive transmission for selectively driving said first and second ticket drive devices, and a separator motor for selectively rotating said separator member.

29. A module as in Claim 27 in which said separator member has a shaft with a helical projection therefrom, and including a drive motor in said housing for selectively rotating said shaft to separate tickets in said strip.

30. A module as in Claim 27 in which said module is adapted to dispense tickets through a plurality of channels, each having an outlet opening in said housing, said rotary separator member spanning the paths of tickets through each of said channels and having shaft with a helical projection portion for each channel, and a motor in said housing to rotate said shaft to separate tickets in any of said channels.

31. A module as in Claim 27 in which said module is adapted to dispense tickets through a plurality of channels, each having an outlet opening in said housing, said first drive device comprising a first drive roller and at least one idler roller, all of said first drive rollers being independently rotatably mounted on a first common shaft, said second ticket drive device comprising a second drive roller and

at least one idler, all of said second drive rollers being drivably secured to a second common shaft, a drive motor driving a drive shaft with a drive member and a clutch on said drive shaft for each of said channels, each drive member engaging a mating drive member secured to one of said first drive rollers, said clutches being selectively operable to drive tickets in each channel separately from those in another channel, and drive members drivably coupling said drive shaft to said second common shaft.

32. A module as in Claim 27 including an elongated support structure forming a cylindrical enclosure for said separator member said enclosure having relatively narrow inlet and outlet slots to hold said strip adjacent said separator member in a position to be contacted forcefully by said separator member when it is rotated.

33. A pull-tab lottery ticket self-service terminal, said machine having a housing with a plurality of dispensers and a window and outlet opening in said housing for each dispenser, in which each of said dispensers for said pull-tab tickets includes a holding support structure for holding said tickets in a stack with tickets in said stack on edge, said stack having a front end, and a rear end, with a front ticket at said front end adjacent to and visible through one of said windows, and dispensing drive means for moving the ticket at said front end in a path parallel to said window to dispense it from said machine through said outlet opening with said ticket being visible through said window.

34. A self-service terminal as in Claim 33 in which said tickets are elongated and are stacked with the longitudinal axis extending substantially vertically, and said dispensing drive means is selected from the group consisting of at least one roller drive mechanism for engaging said front ticket and driving said ticket in a substantially vertical direction; a belt drive to create the same motion;

and a pusher plate with an activating mechanism for pushing said ticket in a substantially vertical direction.

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ABSTRACT OF THE DISCLOSURE

A gaming machine is provided for playing several types of games. For example, scratch-off and pull-tab tickets, or scratch-off, pull-tab and lotto tickets can be sold from the same machine. The winnings from one game can be used to create credits in the machine for buying tickets in a different game from the same machine. Preferably, all instant-winner tickets move past transparent windows so they can be seen while being dispensed. A separator/drive module is provided which can be used in a number of different configurations. It has a rotary helical separator member which spans multiple channels to separate tickets in any of the channels. A single drive source in the housing rotates the separate drives in each channel. Preferably, tickets in strips move upwardly past the windows to simplify the dispensing mechanism and the loading of tickets in the machine. An ejector mechanism which reverses the direction of movement of separated tickets to inhibit theft also is provided.

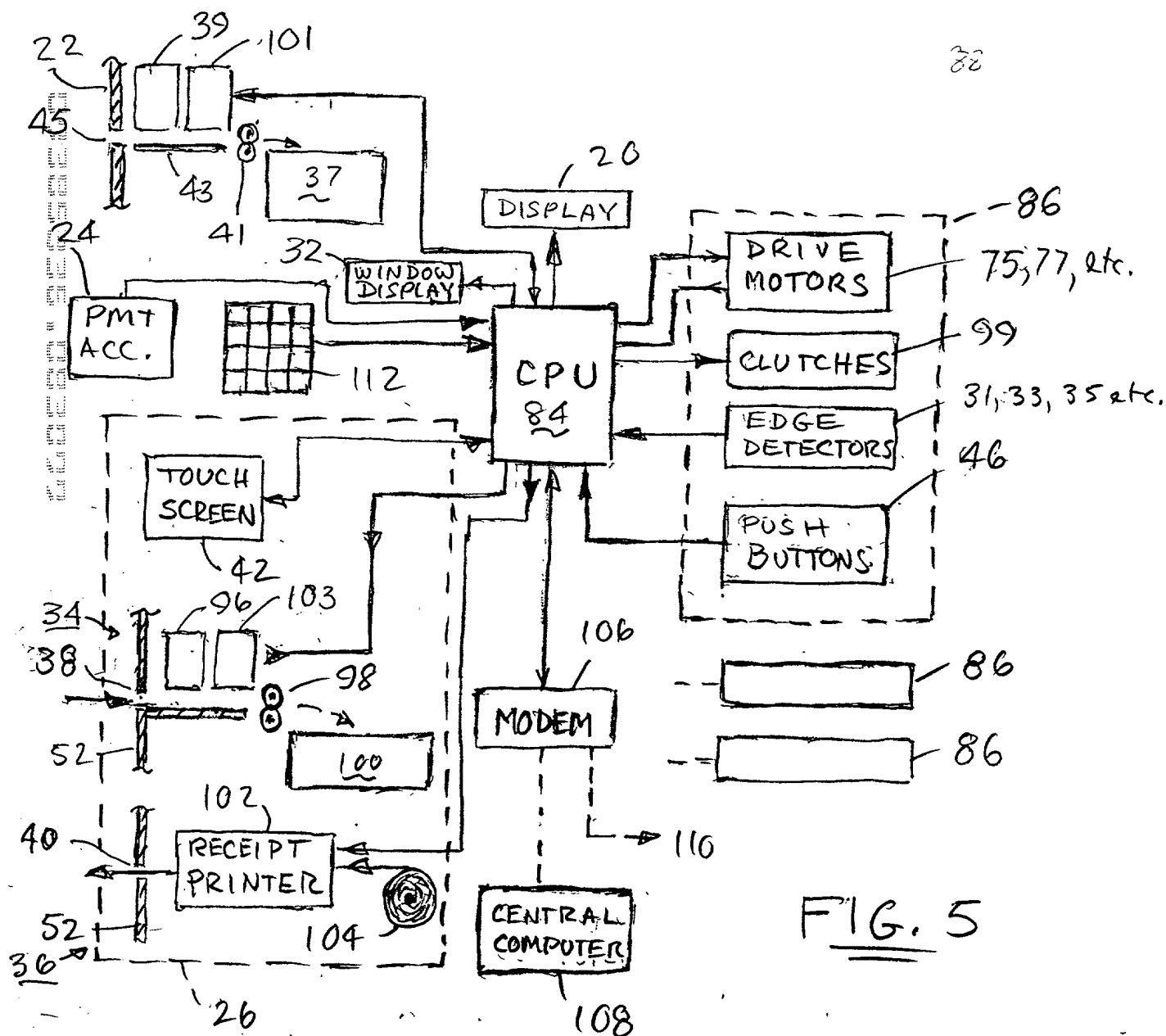
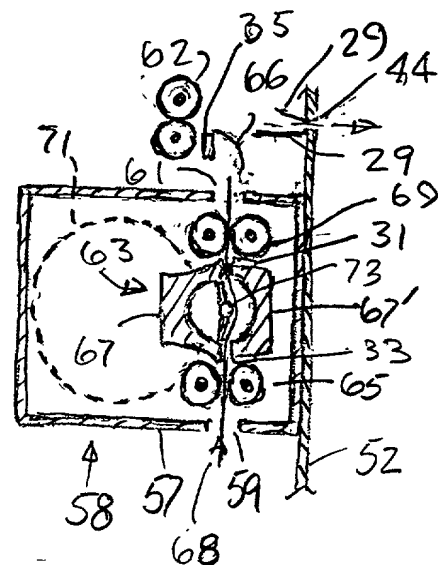
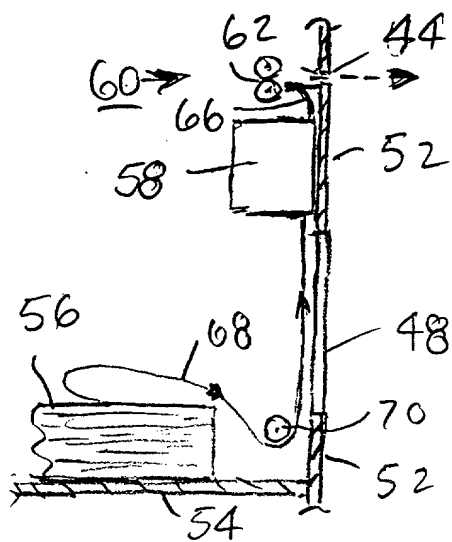


FIG. 6

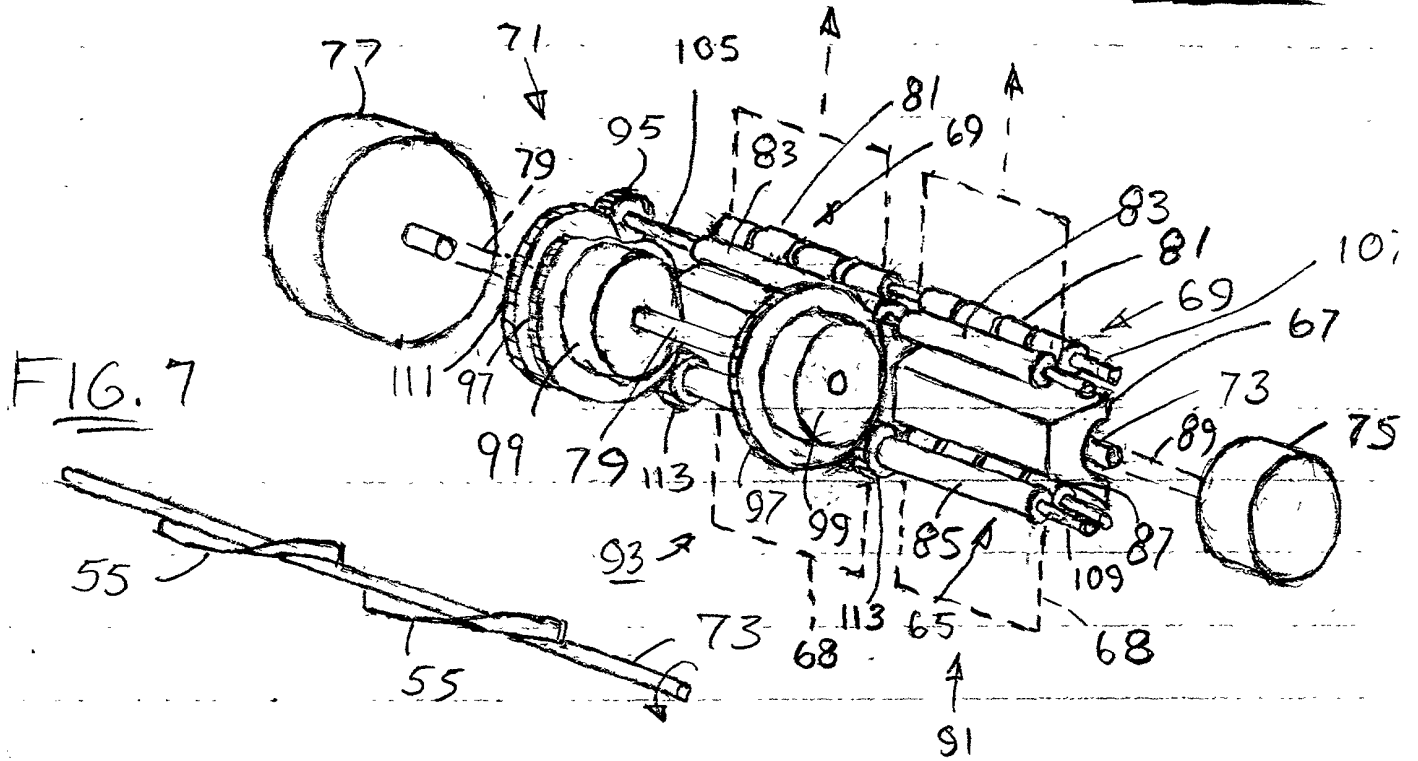
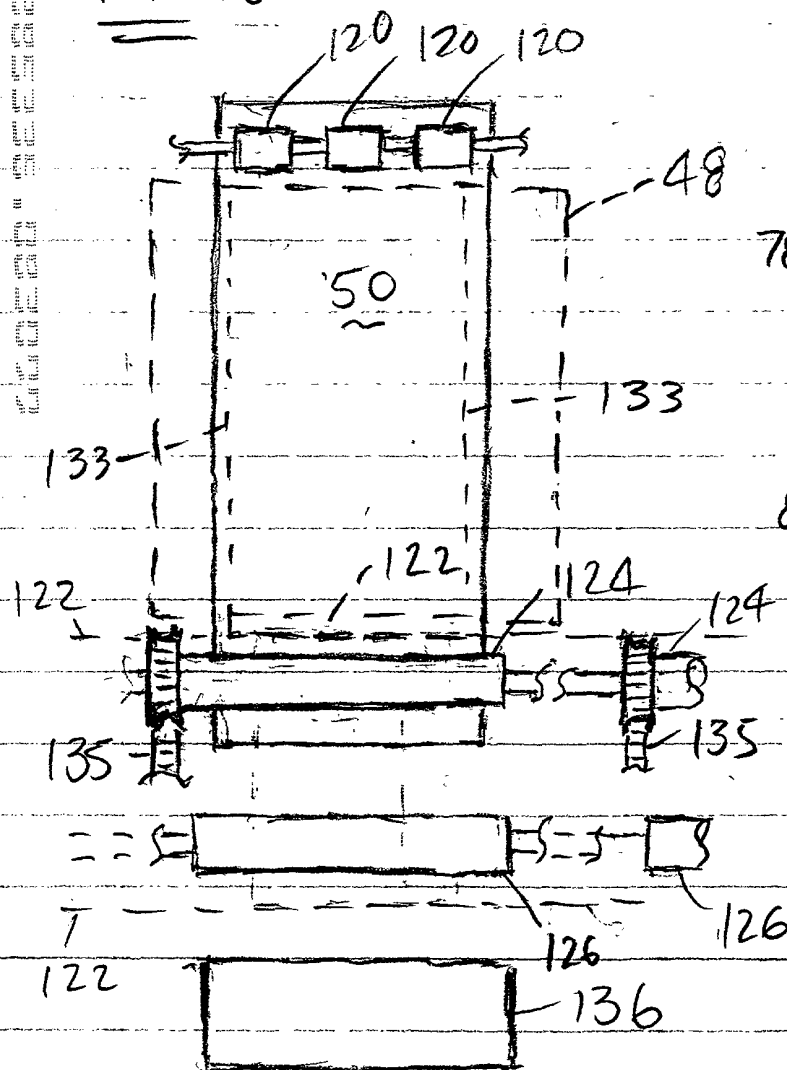
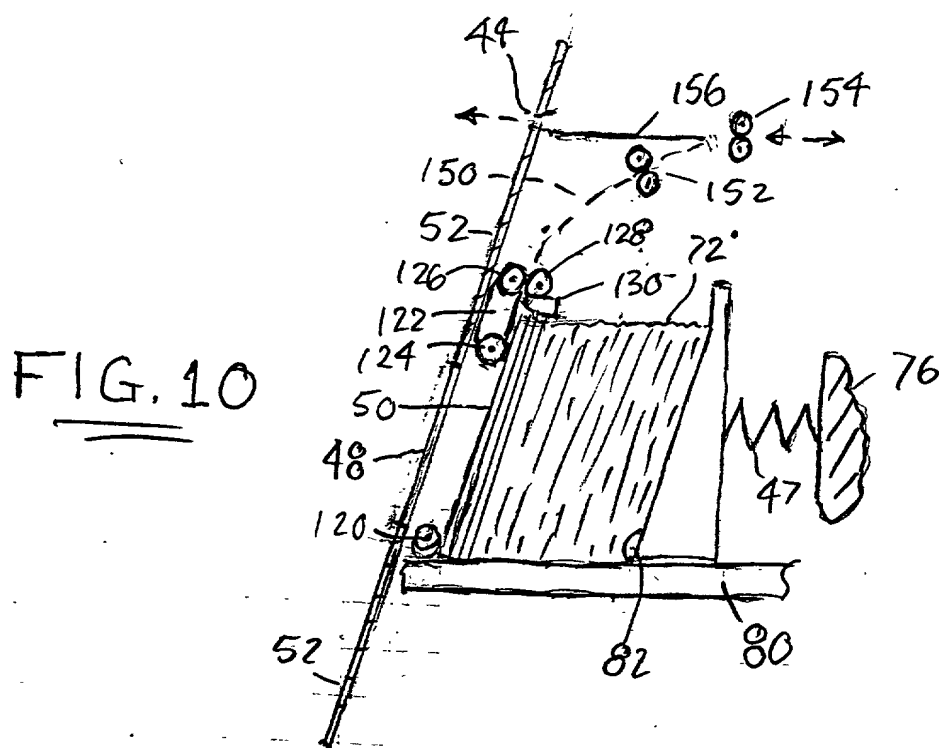
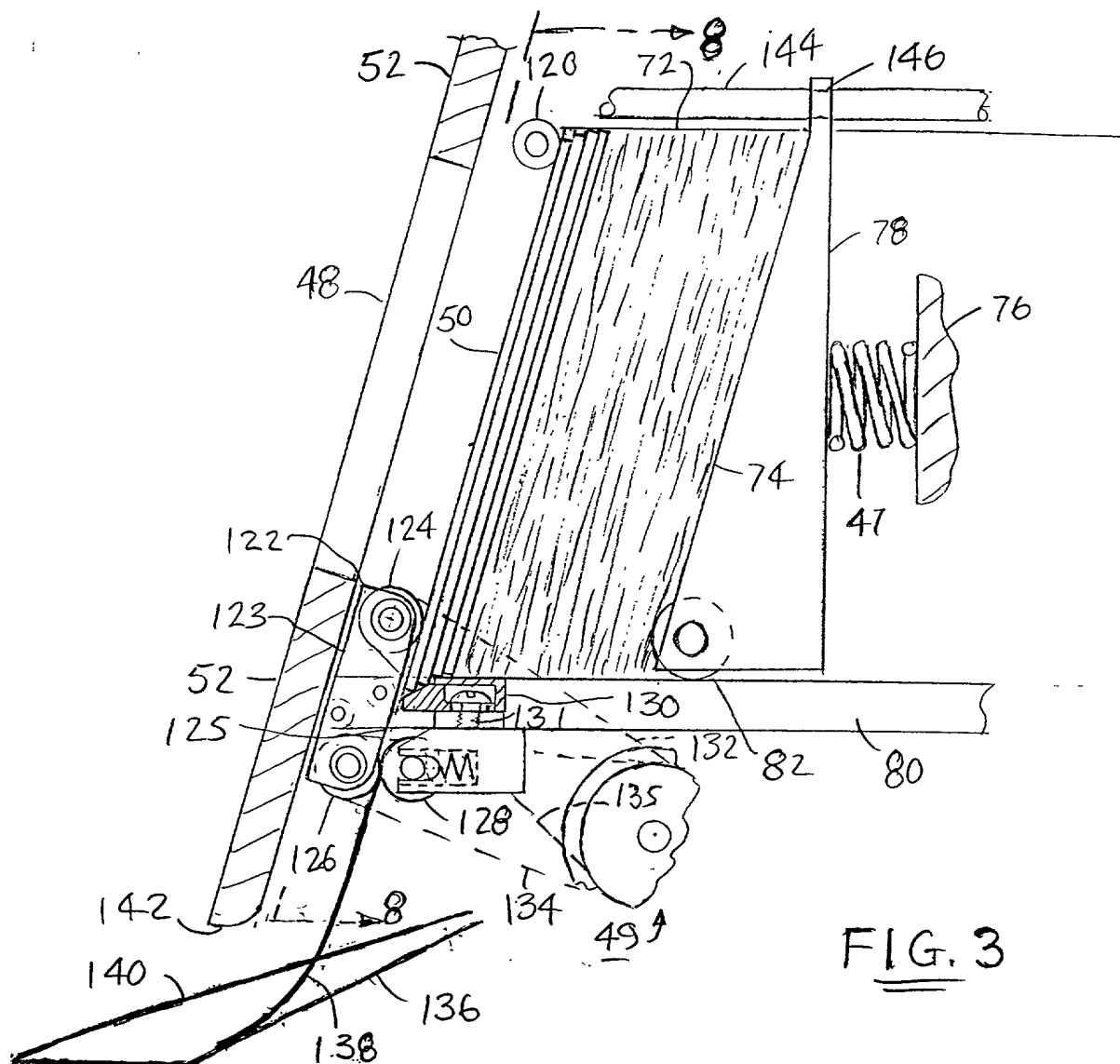


FIG. 8





DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

(Under 37 CFR § 1.63, includes reference to PCT International Applications)

WHITMAN BREED & ABBOTT LLP

File No.: 3345-2180

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **GAMING DEVICE AND METHOD** the specification of which X is attached hereto _ was filed on _ as _ United States _ PCT Application No. _ , with amendments through _ (if applicable, give details).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code § 119 of any foreign application(s) for patent or inventor's certificate or of any PCT International application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application for patent or inventor's certificate or any PCT International applications designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign/PCT Application(s) [list additional applications on separate page]:

<u>Country (or PCT)</u>	<u>Application Number:</u>	<u>Filed (Day/Month/Year)</u>	<u>Priority Claimed:</u>	
			<u>Yes</u>	<u>No</u>

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as

defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Prior U.S. (or U.S.-designating PCT) Application(s)

[list additional applications on separate page]:

U.S. Serial No.:	Filed (Day/Month/Year)	PCT Application No.	Status (patented, pending, abandoned)
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09/060,423	04/14/98		Pending
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09/128,406	08/03/98		
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09/238,682	01/26/99		
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I hereby appoint Gregor N. Neff, Esq., Registration No. 20,596, and Whitman Abbott & Breed LLP, or their duly appointed associate, my attorneys, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to file continuation and divisional applications thereof, to receive the Patent, and to transact all business in the Patent and Trademark Office and in the Courts in connection therewith, and specify that all communications about the application are to be directed to the following correspondence address:

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MORGAN LLP
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New York, NY 10166

Direct all telephone calls to: (212) 451-
3030
to the attention of:
Gregor N. Neff, Esq.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

INVENTOR(S):

Signature: Brian J. Roberts

Date: 8/27/99

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Residence: 3559 Ames Place - Carlsbad, CA 92008
Citizenship: United States

Signature: _____

Bruce P. Roberts

Date: _____

8/27/99

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Residence: 5425 Calumet Drive, La Jolla, 92037

Citizenship: United States

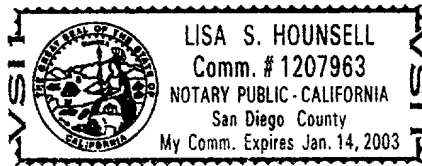
Signature: _____

David B. Petch

Date: _____

8/27/99

NOTE In order to qualify for reduced fees available to Small Entities, each inventor and any other individual or entity having rights to the invention must also sign an appropriate separate "Verified Statement (Declaration) Claiming [or Supporting a Claim by Another for] Small Entity Status" form [e.g. for Independent Inventor, Small Business Concern, Nonprofit Organization, Individual Non-Inventor]



Lisa S Hounsell